



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,812	07/31/2003	Mayur Joshi	M4065.0927/P927	9797
24998	7590	12/06/2005	EXAMINER	
DICKSTEIN SHAPIRO MORIN & OSHINSKY LLP			BATAILLE, PIERRE MICHE	
2101 L Street, NW			ART UNIT	
Washington, DC 20037			PAPER NUMBER	

2186

DATE MAILED: 12/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/630,812

Applicant(s)

JOSHI, MAYUR

Examiner

Pierre-Michel Bataille

Art Unit

2186

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 22-27 is/are allowed.
- 6) ☒ Claim(s) 1-21 and 28-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-21, 28-34, and 36-45 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6,771,525 (Roth).

With respect to claims 1, 5, 7, 9, 17, 28-31, 34, 36-39, and 41-45, Roth discloses a content addressable memory (CAM) comprising: a CAM array that stores entries in memory locations that each have a location width (***content Addressable memory (CAM) for performing search operations using variable width search data, said CAM comprising a plurality of arrays of CAM cells***); the CAM array providing, for each location, a match signal indicating whether the location has a stored entry satisfying a match criterion (***the plurality of arrays of CAM cells, each coupled to a respective sub-search data bus, and providing match line being indicative of the results of a search and comparison formed in the associated CAM array***); match combining circuitry that responds to the match signals and to a signal indicating a search width that is a multiple of the location width, the match combining circuitry

providing combined match signals, each combined match signal indicating a combination of a group of match signals, the combination depending on the indicated search width (***selecting one or more of the match line output signals for selectively combining match line latch outputs as the results of a search and comparison in response to the width selected***); priority encoder circuitry that responds to the combined match signals, providing priority signals indicating at most one combined match signal that has priority and is asserted (***priority encoder to which are provided the selectively combined match line outputs in response to a variable word width control signal***); and search results circuitry that responds to the priority signals, providing search results signals indicating results of the search at the indicated search width (***multiple match resolver to which are provided the search results***). [See Fig. 1; Col. 2, Lines 10-52; Col. 3, Lines 10-46.]

With respect to claims 11, 13, 20, 22, 32-33, 40, Roth additionally describe the CAM memory array to store data entries that satisfy a match criterion, comparison circuitry in the memory array to possibly search memory locations based on content and configuration register having fields within the register specifying the word width to search based on the content (corresponding to the claimed suppress values) [Col. 1, 45-47].

With respect to claims 2-3, 6, 8, 10-12, 14-16, 21, Roth discloses the CAM wherein the selection circuitry including match signal; the search results include an

address code, an array match signal; the locations being variable with encompassing location width of 80, 160, and 320 bits, encompassing search with being once, twice, or four times the location width [Col. 3, Lines 48-61; Col. 4, Line 11 to Col. 5, Line 21].

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over 6,771,525 (Roth) in view of US 6,901,000 (Ichiriu et al).

With respect to claim 35, Roth discloses the invention as claimed (see analysis above) but fails to specifically disclose lower and upper address encoding circuitry. However, Ichiriu discloses, in the same field of endeavor, content addressable memory with address comparand with even and odd comparand register enable to compare respective comparand data to thereby generating multiple comparand results, logic circuit configured match results to selectively combine match results on plurality of match lines based on search width [Fig. 5, 16-17; Col. 26, Lines 31-47; Col. 4, Lines 12-31]. Therefore, it would have been obvious to one of ordinary skill in the art to include lower and upper address encoding circuitry as in the example of Ichiriu because the result would enable a single CAM device to have a increased sustained search where

Art Unit: 2186

multiple compare circuits are enable to perform compare operation one after another in a pipeline fashion to increase the search rate, as taught by Ichiriu [Col. 4, Lines 14-26].

Allowable Subject Matter

5. Claims 22-27 are allowed.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 2004/0064444

US 2003/0223259

US 6,944,709

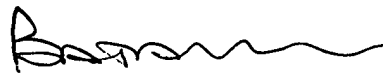
US 6,553,453

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pierre-Michel Bataille whose telephone number is (571) 272-4178. The examiner can normally be reached on Mon-Fri (8:00A to 4:30P).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew M. Kim can be reached on (571) 272-4182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2186

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Pierre-Michel Bataille
Primary Examiner
Art Unit 2186

December 2, 2005

PIERRE BATAILLE
PRIMARY EXAMINER